Remarks

Claim 1 has been amended. Claims 1 and 3-9 remain pending. Reconsideration and reexamination of the application, as amended, are requested.

The Examiner rejected claims 1 and 3-9 under 35 U.S.C. 112, second paragraph, as indefinite. The Examiner indicated that it was unclear whether an adhesive mesh tape or a clamped adhesive meshed tape was being claimed. Applicant has deleted the last phrase of claim 1. It is submitted that claim 1 is now definite.

The Examiner rejected claims 1 and 3-9 under 35 U.S.C. 103(a) as being obvious on consideration of Kawaguchi et al.

Figure 6 of Kawaguchi provides the essence of the structure disclosed. Kawaguchi states at column 3, lines 50-54:

> Fig. 6 shows a cross-sectional view of the adhesive tape for implosion prevention, in which 21 denotes a backing of a cloth union, 22 a pressure sensitive adhesive layer, and 23 a hot melt adhesive layer.

In the "Description of the Related Art" of the present application, Applicant discusses several references. The Kawaguchi reference is discussed at page 2, lines 24-31. Applicant states at page 2, line 24 to page 3, line 1, the following regarding Kawaguchi and the other discussed references:

> The Applicant has further disclosed an adhesive tape prepared by forming a hot-melt adhesive layer on one side and a pressure-sensitive adhesive layer on the other side of a base matrix which is a union fabric employing natural or synthetic fibers as the warp component and glass filaments as the weft component (Japanese Patent No. 2802878 or U.S. Patent No. 5,478,639).
>
> While these implosion-proofed tapes are being widely used at the current time for implosion proofing of cathode-ray tubes, they are all common adhesive tapes (or tacky or pressure-sensitive adhesive tapes) prepared by applying a hot-melt adhesive layer or, onto the entire surface of a base made of a continuous resin film, a pressure-sensitive adhesive layer.

It is clear that Applicant understands these references, including Kawaguchi, to teach a hot-melt adhesive layer and/or pressure-sensitive adhesive layer being applied to a base matrix of fabric. Furthermore, it is clear from Fig. 6 of Kawaguchi that a pressure-sensitive adhesive layer and a hot-melt adhesive layer on opposite sides of a backing is the structure disclosed.

The conventional adhesive tapes, like Kawaguchi, lead to a problem of adhesive fluidity to the point that the reinforcing band can fall off the cathode-ray tube. In this regard, Applicant states on page 4, line 9-25, of the present application the following:

> When implosion-proof tape with the conventional adhesive layer is applied on this section, considerable slippage occurs due to the clamping force caused by cooling contraction of the clamping band that has been expanded by heating, due to fluidity of the adhesive of the implosion-proof tape when it melts and, in severe cases, the reinforcing band may inconveniently fall off together with the implosion-proof tape.
>
> The present invention, as the result of diligent research aimed at overcoming the problems described above and investigation of the nature of implosion-proof tape for cathode-ray tubes, is the successful development of a cathode-ray tube implosion-proof tape which is economical by comprising only the essential indispensable elements for a cathode-ray tube implosion-proof tape, and which has a completely new structure that provides improved slip properties.

Thus, Applicant recognized the slippage problem of the conventional adhesive tapes, and indicated that its research had now identified a solution. Applicant's invention is discussed fully in the description with reference to the figures. Briefly, however, Applicant states at page 14, lines 11-28:

> In the illustration of Fig. 3, the hot-melt adhesive layer and the pressure-sensitive adhesive are adhered only to the weft, but in actual use they may also be adhered to the warps, and more specifically, a common mode has the hot-melt adhesive covering the entire surface after forming the woven fabric with weft and the warp, after which the pressure-sensitive adhesive is adhered to one main surface of the woven fabric.
>
> As shown in the drawing, since the size of the openings of the mesh-like tape here is sufficiently large, the hot-melt resin and the pressure-sensitive adhesive both melt instantaneously upon shrink-fitting with the heated metal clamping band and migrate in the openings, so that surface of the fabric substrate can be exposed to directly contact with the metal clamping band and the cathode-ray tube glass, thus preventing slippage of the metal clamping band due to the resin.

Thus, with the structure claimed in claim 1, Applicant has provided discussion as to an advantage of the structure, namely, preventing slippage of the metal clamping band. Later, Applicant states at page 17, line 23 to page 18, line 2 the following:

> As concerns the anti-slip effect of the invention, since a hot-melt resin covering the surface of yarns such as the warp and weft composing a mesh-like fabric has a smaller absolute coverage than a resin formed into a film, there is only a slight flow distance upon melting of the resin, while because the adhesive layer is formed into a mesh, the resin component that accelerates slipping immediately escapes into the spaces of the mesh while the melted resin is fixed by the internal pressure of the encapsulated space; the flow state upon melting therefore differs fundamentally from a film-like adhesive layer, and an excellent anti-slip effect is exhibited between the metal and glass in addition to the physical friction effect of the mesh-like fabric surface. Here, the slip effect can be evaluated by a taper block test, and for this use it preferably exhibits a value of 200 seconds or longer with heating at 200°C.

Thus, Applicant distinguished and explained why the structure of the mesh tape of claim 1 exhibited an anti-slip effect, as opposed to a tape having an adhesive layer like Kawaguchi. Furthermore, it is indicated that the taper block test provides a way to evaluate the slipping.

Applicant submits herewith the Declaration of Hidemoto Fukuzawa. The Declaration provides test data of a laminated tape like Kawaguchi relative to a mesh tape like that of claim 1 using the taper block test. As shown on page 7 of the Declaration in the table, it took well over 1,000 seconds for a 10.0mm slip to occur for mesh tape as claimed in claim 1 using the taper block test. A Kawaguchi laminate tape at run 3 slipped 10.0mm at 32 seconds. As shown in runs 4-9, amounts of adhesive somewhat less than the conventional disclosure of Kawaguchi, also did not alter the outcome. Thus, the disclosure of Kawaguchi did not point to such a significant lowering of adhesive to the point of the present invention of claim 1 which is actually a different structure. Rather than the laminate tape of Kawaguchi, the invention of claim 1 is a mesh tape wherein the mesh weaving becomes a frictional component leading to the substantial improvement in anti-slipping. Thus, instead of the laminated layers of adhesive of Kawaguchi, claim 1 requires "wherein said hot-melt resin and said pressure-sensitive adhesive do not continuously cover the entire surface of said tape and have openings above or below said open spaces of said fabric and wherein the total volume of said hot-melt resin and said pressure-sensitive adhesive is less than the volume of the open spaces of said fabric". It is this different

structure which leads to the demonstrated advantage provided in the Declaration. Declarant states on page 9 of the Declaration:

> Thus, the disclosure of the present invention was surprising; i.e., it was discovered by the present inventors that not by reducing the amount of the adhesive (hot-melt type) and pressure-sensitive adhesive, but by changing the cathode-ray tube implosion-proofed tape from a laminate type (continuous type) to a mesh type, i.e., by providing spaces between yarns of a mesh backing, the slip characteristic of the tape can be significantly improved while the adhesive force is not substantially reduced. While it is not impossible, a mesh tape is not simply obtained by reducing the amount of adhesives. Special care should be taken to provide spaces between yarns of a mesh tape when adhesives are applied to a mesh backing. Thus, a mesh tape can be produced only by an intentional approach.

Mr. Kawaguchi was an inventor of the cited reference (U.S. Patent No. 5,478,639) and is an inventor of the present invention of claim 1. From the present application as quoted above and from the Declaration, it is clear that the inventors were surprised by the anti-slip outcome of the mesh tape of claim 1. It is submitted that the mesh tape of claim 1 does not follow from the disclosure of Kawaguchi '639. Claim 1 and the claims which depend from it are not obvious and patentable.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration and reexamination are requested. Allowance of claims 1 and 3-9 at an early date is solicited.

Respectfully submitted,

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